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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Engineering

M O N T H L Y N E W S L E T T E R

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The Bureau has been allotted 47 CCC camps to work on the maintenance of drainage works of organized drainage enterprises. The number of camps located in the various States are as follows: Illinois, 6; Indiana, 8; Iowa, 5; Kentucky, 2; Louisiana, 6; Missouri, 6; Ohio, 9; Delaware, 2; and Maryland, 3. Several engineers of the Bureau of Agricultural Engineering have been engaged recently in locating and securing definite camp sites. Lewis A. Jones has been administering the work in connection with locating the camps. S.P. Lyle, J. G. Sutton, D.L.Yarnell, B. O. Childs, and G. R. Shier have been in the field working on the location of camps in various States. Fred F. Shafer of Springfield, Ill., formerly of the Bureau and Clark E. Jacoby of Kansas City, Mo., have been employed in connection with this work. Mr. Shafer and Mr. Jacoby are now in the field locating camps.

D. G. Miller made a trip to Washington to confer with representatives of the Bureau of Standards concerning the tests which are being made in the St. Paul laboratory to determine the resistance to alkali of various makes of cement.

On May 3 a group of about 40 ginners and other interested parties from Missouri made a special visit to the ginning and fiber laboratories at Stoneville to discuss ginning problems and some of the findings of the cotton ginning project.

During the week of May 6 to 11 the Cotton Ginning Investigations displayed an exhibit, which was one of the Departmental group, at the National Cotton Show at Memphis, Tenn., this being a feature of the Memphis Cotton Carnival. V.L. Stedronsky and T. L. Baggette were the Bureau representatives at the cotton ginning booth and were accompanied by Wm. J. Martin of the Bureau of Agricultural Economics, who handled the color and quality displays.

On May 16 Chas. A. Bennett attended the Tennessee Cotton Ginners' Convention at Edgewater Beach, Tenn. where he presented a paper entitled "Some Engineering Features Involved in the United States Cotton Ginning Investigations". Mr. Bennett also presented a similar paper on cotton ginning investigations before a meeting of the Missouri Branch of the Arkansas-Missouri Ginners' Association on May 22 at Hayti, Mo.

The Agricultural Appropriation bill, which was signed by the President on May 17, contains an item of $15,000 for our Bureau for snow surveys. These surveys will have as their objective the forecasting of the quantities of water available for irrigation and hence will be confined to areas which are of chief importance from an irrigation standpoint.

Upon request of the Secretary of State, Fred C. Scobey was designated to serve on a committee of three (including Colonel Edwin H. Marks, Corps of Engineers, United States Army, and Porter W. Preston, Engineer, Bureau of Reclamation) appointed to review data collected by the American Section of the International Boundary Commission, United States and Mexico, and other available data, relative to hydrographic and other conditions on the Lower Rio Grande, the Lower Colorado, and Tia Juana Rivers. The committee convened at El Paso March 20 and continued its sessions for several days. It is expected that additional meetings will be held from time to time, looking to the solution of the problem of the eventual division of the waters of these streams between the United States and Mexico.

A study of the mutual irrigation companies in Utah and California for the Cooperative Division of the Farm Credit Administration was begun by Wells A. Hutchins. Request for this study was made by the Bank for Cooperatives at Oakland, Calif. After preliminary conferences in California and Utah concerning outline of the work to be undertaken, Mr. Hutchins came to Washington, D.C., for consultation with officials of the Farm Credit Administration before beginning field work. It is expected the study may require four or five months.

At the request of the local Debt-adjustment Committee transmitted through the Federal Land Bank of Berkeley, P.A. Ewing was detailed to examine and report upon the affairs of Big Springs Irrigation District, Calif., in which the bank is heavily involved by mortgage equities. A plan of reorganization was suggested for consideration by the district and its various creditors.

For the purpose of making soil moisture determinations, Karl Harris collected soil samples from 27 different fields scattered over the Salt River Valley, Arizona, at the time of cotton planting. This work was done in cooperation with the State Extension Service on fields belonging to the Pima Cotton High-Yield Club. Farmers of this club compete with each other for the highest and most economical yield of cotton, complete records being kept of irrigation and yields of the separate fields. The records obtained at this time should help to explain the different irrigation requirements of the varying soil types.

Since the installation of a portable overhead irrigation system on a 200-acre citrus ranch near Porterville, Calif., a remarkable increase in production has occurred in the past two years, according to Colin A. Taylor. Slip-joint pipe is used for conveyance of the water.

A test of humidity, wind movement, and air and water temperatures along the shore line of the Pasadena reservoir in San Gabriel canyon was reported by A.A. Young. It was desired to find out if enough

difference in humidity existed at different points to affect evaporation from the reservoir surface. Humidity was found to vary from 23 to 58 percent at different places. In general the higher humidity was found in protected bays and the lower at points of land exposed to wind movement. The Pasadena Water Department expects to place two Weather Bureau pans on barges at selected locations to determine actual differences in evaporation between protected and exposed locations.

Resumption of studies at the silt laboratory constructed last summer under the direction of R. L. Parshall in the Imperial Valley, Calif., has had to be postponed due to the shortage of water supply and the desire to increase the storage at the Boulder Dam this season to the utmost in order to provide power at the earliest possible date.

R.M. Merrill spent May 10 and 11 at the Washington office in connection with the pest control project. Previous to coming to Washington, he spent some time at Moorestown, N.J., conferring with Mr. Irons and others on matters pertaining to the corn borer and Japanese beetle projects.

Messrs Cumings, Redit, Brockseker, and Humphries have been in the field almost continuously for the past month in fertilizer placement work. Rain has interfered to a considerable extent with the planting, but on the whole the work has progressed very favorably. The crops planted were cotton, tobacco, potatoes and sugar beets. In addition peas were planted and fertilizers applied as a part of the fertilizer placement with tomatoes, beans, and cabbage to be grown in a rotation at one location.

The crust breakers that E.M. Mervine has developed in connection with his sugar beet studies were used on alfalfa fields, old beet fields, and cornstalk fields with very gratifying results, and the farmers who used them were very enthusiastic about their performance..

The Bureau's variable-depth method of planting cotton is being used by a number of farmers in central Alabama, according to J.W.Randolph. One company is manufacturing variable-depth planter attachments now, and indications are that others will be doing so by next spring. A simple variable-depth arrangement was developed by I.F. Reed and Edwin Hansen this spring at the Auburn (Alabama) Station for a 2-row corn and cotton planter of the type used in the Corn Belt. This planter was loaned to several farmers to be used alongside their own planters. Manufacturers are very much interested in this development and factory representatives have been sent to observe it in the field.

Several methods of cotton planting will be compared on five of the soil types now in the bins at the Farm Tillage Machinery Laboratory to determine the best methods for obtaining a stand. Special planting and bedding equipment for work in the bins has been made up. No attempt will be made to raise the cotton to maturity.

Claude K. Shedd reports that the corn-production-machinery project at Ames, Iowa, has recently been visited by representatives of two of the large implement manufacturers who are interested in securing information about the basin lister. A farmer near Woodbine, Iowa, built one of these attachments for his own use this year. An orchardist and nurseryman from Arlington, Nebr. has made two visits to the project to obtain

information about the basin lister and sufficient details to enable him to build a machine of this kind for use in cultivating orchards.

According to E.M. Dieffenbach, the present tendency in orchard spraying is to use a multiple-nozzle rod or gun, rather than the familiar spray gun with adjustable cone of spray. Dieffenbach is investigating the possibility of using a single larger nozzle having some of the advantages of both the multiple-nozzle and single run.

W.M. Hurst has spent the past six weeks at Jeanerette, La., with E.D. Gordon in connection with the forage drying project. Preliminary tests with the vertical rotary type drier described in last month's News Letter gave promising results.

Several sets of hill-planted and drill-planted sugar beet plots have been put in to test the recently developed hill planters and to compare the two methods of planting, S.W. McBirney reports. Hill planting is attracting an increasing amount of attention because of the possible saving of approximately two-thirds of the seed. With seed at this year's price of 20 cents per pound, the saving amounts to around $2.60 per acre.

A. H. Senner visited the American Gas Association laboratory at Cleveland, Ohio, on May 4 and the laboratory of the Phillips Petroleum Company, Pontiac, Mich., on May 6, in connection with the study of bottled gas and equipment for its use.

The following publication was issued during the past month:

Circ. 345. Barrel and Disk Seed Scarifiers.